DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The invention listed below is owned by an agency of the U.S. Government and is available for licensing to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

FOR FURTHER INFORMATION CONTACT: Dawn Taylor-Mulneix at 301-767-5189, or *dawn.taylor-mulneix@nih.gov.* Licensing information may be obtained by communicating with the Technology Transfer and Intellectual Property Office, National Institute of Allergy and Infectious Diseases, 5601 Fishers Lane, Rockville, MD 20852; tel. 301-496-2644. A signed Confidential Disclosure Agreement will be required to receive copies of unpublished information related to the invention.

SUPPLEMENTARY INFORMATION: SARS-CoV-2 infection of human lung epithelial cells triggers a cell-mediated acute fibrin fibrosis.

Description of Technology:

Scientists at National Institute of Allergy and Infectious Diseases (NIAID) have developed a method of treatment for virus-induced lung fibrosis using nebulized thrombin inhibitors. Since March 2020, the World Health Organization (WHO) estimates that 564 million people have been infected with SARS-CoV-2 world-wide. Lung fibrosis is a major factor associated with SARS-CoV-2 infections and can contribute to mortality. Additionally, severe SARS-CoV-2 cases can result in long-term pulmonary disease due

to lung fibrosis. At present, attempts to treat lung fibrosis developed during a SARS-CoV-2 infection using intravenous heparin have been unsuccessful.

NIAID scientists have discovered a previously unknown acute fibrosis mechanism mediated by SARS-CoV-2 infected primary lung epithelium, and have developed an innovative method of treating lung fibrosis using nebulized thrombin inhibitors.

This technology is available for licensing for commercial development in accordance with 35 U.S.C. § 209 and 37 CFR Part 404, as well as for further development and evaluation under a research collaboration.

Potential Commercial Applications:

- Innovative method of treatment for virus-induced lung fibrosis
- A multi-targeted approach could decrease lung-term symptoms associated with SARS-CoV-2

Competitive Advantages:

- Addresses the pathology at the proper location instead of indiscriminately

Development Stage:

- Pre-Clinical

Inventors: Peter Sun and Rachel Erickson, all of NIAID

Intellectual Property: US Provisional Application 63/388,498 (HHS Reference No. E-157-2022-0-US-01) filed on 12 July 2022.

Licensing Contact: To license this technology, please contact Dawn Taylor-Mulneix at 301-767-5189, or *dawn.taylor-mulneix@nih.gov*, and reference E-157-2022.

Collaborative Research Opportunity: The National Institute of Allergy and Infectious Diseases is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this technology. For

collaboration opportunities, please contact Dawn Taylor-Mulneix at 301-767-5189, or *dawn.taylor-mulneix@nih.gov.*

Date: August 12, 2022.

Surekha Vathyam,

Deputy Director,

Technology Transfer and Intellectual Property Office,

National Institute of Allergy and Infectious Diseases.

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